

# Rain Gardens

## What is it?

A rain garden is a bowl-shaped planting area, which receives water from an impervious surface, such as a roof or a parking area. Plants in the garden are specially chosen and placed based on their tolerance to varying degrees and durations of standing water. A rain garden is sited in an area where the soil is loose enough to drain the collected water within 24 hours of a rain event.

## Why do it?

Stormwater running off impervious surfaces is a major contributor to the 14 billion gallons of combined sewer overflows the Cincinnati region experiences every year. Rain gardens keep polluted runoff out of our rivers by sending rain into the ground, where it can be used by plants and filter down to recharge groundwater. They also make beautiful, drought tolerant additions to a landscape.



TYPICAL RAIN GARDEN SHAPE

## How to get started

- Find a spot for the garden, to which you can send rain from a nearby impervious surface. It should be at least 10 feet from any building foundations and not above underground utilities, tree roots or septic systems.
- Perform a percolation test to determine how quickly your soil drains. Dig a hole 8" deep and 8" in diameter. Fill the hole with water and let it drain. Fill the hole again and mark the top of the water with a twig stuck into the side of the hole. Check the hole periodically, measuring how much the water has drained each time. If the water sinks 4-8" within 24 hours, your soil is good for a rain garden.
- Calculate how much water is moving to that area in a 1" rain. Estimate the surface area (length x width) of the impervious surfaces whose runoff will flow to the rain garden. Multiply the surface area by 0.623 gallons/square feet to calculate the number of gallons falling on that area in a 1" rain.



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- Figure out the size and shape of the rain garden that will handle the amount of water flowing to it (this depends on soil type, slope and rain garden depth so refer to a rain garden manual for details).
- Choose plants that will work well in a rain garden and look good on the site (manuals have specific suggestions for our region sorted by plant type and size).
- Lay out a hose or rope in the shape of the garden and start digging! Make the bottom of the rain garden as flat and wide as possible to distribute water evenly throughout the garden.
- Purchase and plant plants in whatever size works for your budget and style: from plugs to gallon pots, just plan for mature size when spacing.
- Mulch with double or triple shredded hardwood mulch (it will not float).

## Key Factors to Consider

- Soil type: If your native soil does not drain at least 4" of water in 24 hours you will need to mix compost into the top 6-12" of the excavated garden and then retest the percolation rate.
- If the slope is more than 20% consult an engineer.
- Do not locate near endangered species habitats, closed hazardous waste remediation sites or drinking water wells.
- Consider where excess water will go if the rain garden overflows.



## Local Resources

- Classes and workshops at the CGC, tours of the Green Learning Station
- Green City Resources, a local business that installs rain gardens: [greencityresources.com](http://greencityresources.com)
- Rain Garden Alliance: [cincyrain.org/](http://cincyrain.org/)

## Recommended Reading

- *Rain Garden Guidelines for Southwest Ohio*, OSU Hamilton County Extension Publication, available in the CGC lobby or online
- *The Blue Thumb Guide to Raingardens*, by Rusty Schmidt, Dan Shaw and David Dods

